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## Cork Device for Resealing a Bottle

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### Background of the Invention

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#### 1. Field of the Invention

4       The present invention relates to a cork device for resealing a bottle such as  
5       a wine bottle and allowing pouring of the liquid such as wine out of the bottle  
6       without the need of removing the cork device from a mouth of the bottle.

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#### 2. Description of the Related Art

8       A cork is usually used to seal a bottle containing grape wine, champagne  
9       or the like. Once the bottle is opened by means of removing the cork from the  
10      bottle, the fragrance and the quality of the liquor remained in the bottle  
11      deteriorate quickly. The same problem exists in bottles using metal caps. Thus,  
12      the liquor in the unsealed bottle could become sour. A combined cork/cap  
13      structure has been proposed to solve this problem. The combined cork/cap  
14      includes a cork portion inserted into a mouth of an unsealed bottle and a cap  
15      portion that can be turned to cause radial expansion/shrinkage of the cork  
16      portion. The cork portion can be expanded to provide the sealing function or  
17      shrunk to allow removal of the cork portion from the mouth of the unsealed  
18      bottle. Thus, the liquor in the unsealed bottle can be preserved for a longer  
19      time. However, the user has to turn the cap portion, remove the combined  
20      cork/cap, reinsert the cap portion into the bottle, and turn the cap portion in a  
21      reverse direction every time he wants to drink. This is quite inconvenient to  
22      the user.

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### Summary of the Invention

24       An object of the present invention is to provide a cork device for resealing  
25       a bottle such as a wine bottle and allowing pouring of the liquid such as wine

1 out of the bottle without the need of removing the cork device from a mouth of  
2 the bottle.

3 A cork device comprises a cork member and a control member. The cork  
4 member comprises a lower end to be inserted into a mouth of a bottle and an  
5 upper end. The lower end of the cork member including a liquid passage  
6 having a lower end communicated with an interior of the bottle and an upper  
7 end. The control member is pivotally mounted to the upper end of the cork  
8 member and movable between a sealing position and an open position. The  
9 control member includes a liquid outlet passage. The upper end of the liquid  
10 passage of the cork member is blocked by the control member when the  
11 control member is in the sealing position. The upper end of the liquid passage  
12 of the cork member is communicated with atmosphere via the liquid outlet  
13 passage when the control member is in the open position.

14 Other objects, advantages, and novel features of the invention will become  
15 more apparent from the following detailed description when taken in  
16 conjunction with the accompanying drawings.

17 **Brief Description of the Drawings**

18 Fig. 1 is an exploded perspective view of a cork device in accordance with  
19 the present invention.

20 Fig. 2 is a perspective view illustrating use of the cork device in  
21 accordance with the present invention.

22 Fig. 3 is an exploded perspective view, partly cutaway, of the cork device  
23 in accordance with the present invention.

24 Fig. 4 is a sectional view of the cork device in a sealing position.

25 Fig. 5 is a sectional view similar to Fig. 4, wherein the cork device is in an  
26 open position.

1           Fig. 6 is a sectional view similar to Fig. 5, illustrating pouring of liquid out  
2           of the bottle.

3           **Detailed Description of the Preferred Embodiment**

4           Referring to Figs. 1 through 4, a cork device in accordance with the  
5           present invention generally comprises a cork member 2 and a control member  
6           3. The cork member 2 comprises a lower end 2a to be inserted into a mouth 10  
7           (Fig. 4) of a bottle 1 and an upper end 2b to which a lower end 32 of the  
8           control member 3 is pivotally mounted. Two O-rings 21 and 22 are received in  
9           two annular grooves (not labeled) defined in an outer periphery of the lower  
10          end 2a of the cork member 2 to prevent leakage of liquid in the bottle 1 when  
11          the lower end 2a of the cork member 2 is mounted in the mouth 10 of the  
12          bottle 1, best shown in Fig. 4. Referring to Figs. 3 and 3, the lower end 2a of  
13          the cork member 2 includes a longitudinal liquid passage 23 and a longitudinal  
14          air passage 24 spaced from the longitudinal liquid passage 23. Each of the  
15          longitudinal liquid passage 23 and the longitudinal air passage 24 has a lower  
16          end 231, 241 communicated with an interior of the bottle 1 and an upper end  
17          230, 240 facing the lower end 32 of the control member 3.

18          Referring to Figs. 1 and 3, the upper end 2b of the cork member 2  
19          comprises two opposed sidewalls 26 having aligned pivotal holes 260 and a  
20          connecting bottom wall 29, thereby defining a space for pivotally receiving the  
21          lower end 32 of the control member 3. The upper end 230 of the longitudinal  
22          liquid passage 23 and the upper end 240 of the longitudinal air passage 24 are  
23          defined in the connecting bottom wall 29. In this embodiment, the connecting  
24          bottom wall 29 is arcuate and includes a positioning groove 251 surrounding  
25          the upper ends 230 and 240 of the longitudinal liquid passage 23 and the

1 longitudinal air passage 24, and a sealing ring 25 is mounted in the positioning  
2 groove 251 to prevent leakage of the liquid from the interior of the bottle 1.

3 The control member 3 includes the lower end 32 and an upper operative  
4 end 38 for manual pivotal operation. The lower end 32 of the control member  
5 3 includes two pivotal members 31 (Fig. 1) respectively on two opposed sides  
6 thereof. The pivotal members 31 are pivotally received in the pivotal holes 260  
7 of the upper end 2b of the cork member 2. Preferably, each sidewall 26 of the  
8 upper end 2b of the cork member 2 includes a vertical guide groove 261 (Fig.  
9 3) for guiding the respective pivotal member 31 into the respective pivotal  
H0 hole 260. Preferably, the lower end 32 of the control member 3 includes an  
G2 arcuate bottom face 320 (Fig. 3) for blocking the upper end 230 of the  
G1 longitudinal liquid passage 23 and the upper end 240 of the longitudinal air  
G2 passage 24, best shown in Fig. 4.

14 The control member 3 comprises a liquid outlet passage 35 and an air inlet  
15 passage 36. In this embodiment, the liquid outlet passage 35 and the air inlet  
16 passage 36 are defined in the lower end 32 of the control member 3. The liquid  
17 outlet passage 35 includes a first end 351 and a second end 350. The air inlet  
18 passage 36 includes a first end 362 and a second end branching into two  
19 branches 361 each having an air inlet 360. The diameter of each air inlet 360 is  
20 smaller than that of the second end 350 of the liquid outlet passage 35. The  
21 control member 3 further comprises a first stop 33 on a side thereof and a  
22 second stop 34 on a second side thereof opposite to the first stop 33.

23 The control member 3 is pivotable between a sealing position (Fig. 4) and  
24 an open position (Fig. 5). When the control member 3 is in the sealing position  
25 shown in Fig. 4, the upper end 230 of the longitudinal liquid passage 23 and  
26 the upper end 240 of the longitudinal air passage 24 are blocked by the arcuate

bottom face 320 of the control member 3. Pouring and/or leakage of the liquid in the bottle 1 are not possible. It is noted that the first stop 33 of the control member 3 abuts against an end edge 27 of the connecting bottom wall 29 of the cork member 2. Namely, the user may pivot the control member 3 until the first stop 33 of the control member 3 abuts against the end edge 27 of the connecting bottom wall 29 of the cork member 2 when it is desired to seal the bottle 1.

When the control member 3 is pivoted to the open position shown in Fig. 5, the first end 351 of the liquid outlet passage 35 is communicated with the upper end 230 of the longitudinal liquid passage 23, and the second end 350 of the liquid outlet passage 35 is communicated with atmosphere. In addition, the first end 362 of the air inlet passage 36 is communicated with the upper end 240 of the longitudinal air passage 24, and the air inlets 360 of the air inlet passage 36 are communicated with atmosphere. It is noted that the second stop 34 of the control member 3 abuts against another end edge 28 of the connecting bottom wall 29 of the cork member 2. Namely, the user may pivot the control member 3 until the second stop 34 of the control member 3 abuts against the end edge 28 of the connecting bottom wall 29 of the cork member 2 when it is desired to pour the liquid out of the bottle 1.

The liquid in the bottle 1 can be poured via the longitudinal liquid passage 23 and the liquid outlet passage 35 when the bottle 1 is moved to a position shown in Fig. 6. Atmospheric air enters the interior of the bottle 1 via the inlets 360 of the air inlet passage 36 and the longitudinal air passage 24 to compensate pressure in the bottle 1. Thus, pouring of the liquid out of the bottle 1 can continue. After pouring, the control member 3 can be pivoted back

1 to the sealing position shown in Fig. 4 for preserving the liquid remained in the  
2 bottle 1.

3 It is readily apparent that the air passage 24 in the cork member 2 and the  
4 air inlet passage 36 in the control member 3 can be omitted if the diameters of  
5 the liquid passage 23 and the liquid outlet passage 35 are large enough for  
6 pouring liquid out of the bottle 1.

7 Although the invention has been explained in relation to its preferred  
8 embodiment, it is to be understood that many other possible modifications and  
9 variations can be made without departing from the scope of the invention as  
10 hereinafter claimed.